Minimising pain at wound dressing-related procedures

A consensus document
This guide is a World Union of Wound Healing Societies' educational initiative. It has been inspired by two seminal documents: the European Wound Management Association (EWMA) position document on ‘Pain at wound dressing changes’ and a supplement to Ostomy Wound Management on ‘Practical treatment of wound pain and trauma: a patient-centred approach’. As an international educational initiative, this document is aimed at anyone involved in dressing-related procedures anywhere in the world.

The principles presented are based on statements from the two documents mentioned above and the consensus opinion of an international expert working group (see below). For the concept of best practice to make a real difference to patient care, clinicians should adopt these recommendations and share them with colleagues, patients and carers.

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FOREWORD

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APPLICATION TO PRACTICE

Assume all wounds are painful
Over time wounds may become more painful
Accept that the skin surrounding the wound can become sensitive and painful
Accept that for some patients the lightest touch or simply air moving across the wound can be intensely painful
Know when to refer for specialist assessment

Unresolved pain negatively affects wound healing and has an impact on quality of life. Pain at wound dressing-related procedures can be managed by a combination of accurate assessment, suitable dressing choices, skilled wound management and individualised analgesic regimens. For therapeutic as well as humanitarian reasons it is vital that clinicians know how to assess, evaluate and manage pain.

Having a basic understanding of pain physiology will help anyone involved in a wound dressing-related procedure to understand the patient’s pain experience.

It is fundamental to appreciate that pain from wounds is multidimensional, and the patient’s psychosocial environment will influence and impact on the physiological experience of pain.

The International Association for the Study of Pain defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” (www.iasp-pain.org).

UNDERSTANDING TYPES OF PAIN

There are two types of pain: nociceptive pain and neuropathic pain. Nociceptive pain may be defined as an appropriate physiological response to a painful stimulus. It may involve acute or chronic inflammation. Acute nociceptive pain occurs as a result of tissue damage and is usually time limited. Where wounds are slow to heal, the prolonged inflammatory response may cause heightened sensitivity in both the wound (primary hyperalgesia) and in the surrounding skin (secondary hyperalgesia).

Neuropathic pain has been defined as an inappropriate response caused by a primary lesion or dysfunction in the nervous system. Nerve damage is the commonest cause of the primary lesion, which may be due to trauma, infection, metabolic disorder or cancer. Neuropathic pain is a major factor in the development of chronic pain. It is often associated with altered or unpleasant sensations whereby any sensory stimulus such as light touch or pressure or changes in temperature can provoke intense pain (allodynia). The clinician must recognise that this requires specific pharmacological management and referral for assessment by a specialist who is able to diagnose (and treat) neuropathic pain.

Patients with increased sensitivity who feel pain at the slightest touch, are likely to find the additional pain from a dressing-related procedure excruciating
CAUSES OF PAIN

USING A LAYERED APPROACH
The terms background, incident, procedural and operative can be used to describe the cause of pain. Whatever the cause of pain, the patient’s experience will be influenced by his/her psychosocial environment.

Background pain is the pain felt at rest, when no wound manipulation is taking place. It may be continuous (eg like a toothache) or intermittent (eg like cramp or night-time pain). Background pain is related to the underlying cause of the wound, local wound factors (eg ischaemia, infection and maceration) and other related pathologies (eg diabetic neuropathy, peripheral vascular disease, rheumatoid arthritis and dermatological conditions). The patient may also have pain that is unrelated to the wound, which may impact on the background pain experience (eg herpes zoster (shingles), osteoarthritis and cancer).

Incident (breakthrough) pain can occur during day-to-day activities such as mobilisation, when coughing or following dressing slippage.

Procedural pain results from a routine, basic procedure such as dressing removal, cleansing or dressing application. Non-pharmacological techniques and analgesia may both be required to manage the pain.

Operative pain is associated with any intervention that would normally be performed by a specialist clinician and require an anaesthetic (local or general) to manage the pain.

Psychosocial/environment – factors such as age, gender, educational level, environment and previous pain history can all influence patients’ experience of pain and ability to communicate their pain. Clinicians must validate the pain experience and acknowledge the patient’s beliefs about the cause of pain as well as the potential benefits of different methods of pain management.
ASSESSMENT OF PAIN

USING A LAYERED APPROACH
Given the wide range of wounds and individual responses, it is impossible to guarantee that every patient will feel no pain and it is important to set realistic goals with each patient. Patients can expect to feel some sensation during a dressing-related procedure, but the aim should be to limit pain and discomfort to a minimum. This can only be achieved with the patient’s involvement and by using an agreed pain assessment method involving a layered approach to evaluate and, if necessary, change the choice and timing of any analgesics and/or intervention.

An initial assessment should be carried out by an experienced clinician. This will include a full pain history, building up a picture of background, incident, procedural and operative pain. A body map diagram may be useful to show the location/site of the pain, especially if there is more than one painful area that needs to be scored independently. This assessment provides knowledge of the wound and the patient’s pain experience and places it within a patient-centred environment.

Assessment should also try to explore factors such as feelings, perceptions, expectations, meaning of pain and impact of pain on daily/family life. A clinician will need to be a good listener and build up a picture of the patient’s beliefs about pain, using simple questions such as “Where do you believe the pain comes from?” or “What helps you cope with the pain?” Skilled clinicians may need to use tools such as a Sickness Impact Profile (SIP)4 or Quality of Life Scale (QOLS)5.

On-going assessment is performed each time a dressing-related procedure is carried out. Background pain in the wound and surrounding tissue, plus any new regional pain that may have developed should be assessed and the intensity rated before the dressing-related procedure. Pain intensity should also be rated during and after the intervention as appropriate.

Documenting this in the patient’s notes should enable a later evaluation of whether the pain is increasing or decreasing over time. Events related to increased or reduced pain should also be documented.

Ensure that each pain assessment is individualised, relevant and does not become an additional stressor.

A review assessment should be carried out by an experienced clinician as part of a wider case review and ongoing evaluation to assess treatment strategies and progress. The triggers for pain and reducers of pain should be identified and documented. Details such as documented pain scores may be represented graphically, allowing trends to emerge over time and changes in practice, such as pre-emptive analgesia, to be evaluated. An audit review may also reveal unknown relationships, such as different levels of pain after treatment by different carers.

Pain scoring can help reveal trends | In this hypothetical graph, pain scores are recorded before, during and after a dressing-related procedure. The pain is clearly at its worst during the procedure, and a combination of appropriate medication, ‘time outs’ and adjustments to technique and dressing choices result in a decline in severity. This also has an impact on the pain experience following the procedure.
PAIN IS WHATEVER THE PATIENT SAYS IT IS, BUT SOMETIMES THE PATIENT DOESN’T SAY
Assessment should always involve the patient. In special circumstances, such as dealing with non-communicative young children, the frail elderly or cognitively impaired, greater patience and understanding is required. In these situations steps must be taken to ensure a comprehensive evaluation of patients’ pain management requirements. It can be difficult to isolate pain from general anxiety, agitation, unhappiness or distress, but a caring approach can do much to alleviate suffering.

Age, culture and differences in the interpretation of pain or words used to describe it can make it difficult to empathise with patients, especially if the pain reported appears to be out of proportion to the perceived stimuli. At the very least, the patient’s feelings should be believed, and respected.

Assessing the character of pain using questions
Clinicians should begin by listening to patients and observing their responses (see page 10). Pain assessment can be as basic as asking how the patient feels, both generally and specifically in relation to background, incident and procedural pain. Clinicians should ask questions to gather information on what triggers pain or what the pain feels like, for example, and then listen to and observe the patient’s behaviour as some may modify their answers so as not to appear difficult or troublesome.

Other indicators
Dressing-related procedures provide an opportunity to observe the wound for factors that may impact on pain such as signs of inflammation and infection; these may include delayed healing, wound deterioration, erythema, purulence, heat, oedema and odour. In addition, the condition of the surrounding skin and whether there is evidence of dressing adherence (too dry) or excessive exudate (too wet), necrosis or maceration may provide useful information.

MEASURING PAIN INTENSITY
The basic principles of pain assessment should be the same for all wound types: the goal is to minimise pain and create optimal conditions for wound healing. Pain scoring is a vital sign for wound management: if the pain is getting worse, it may be indicative of healing problems such as infection, or the use of an inappropriate treatment, for example poor dressing choice.

Clinicians should not simply ask “Do you have pain, yes or no?” but “How would you grade your pain?” Unless extreme, the absolute figure on the pain scale is less important than the direction of travel. If the pain management is correct then the direction of travel should be downwards (ie reducing).

An unacceptable level of background pain or uncontrolled pain during or after dressing changes may necessitate a change in management. Individual goals can be set with each patient, but as a general guide pain rated as ‘moderate’ or scores above 4 (on a scale of 1–10) or above 40% of any other scoring range should prompt ‘time out’ breaks, top-up and/or improved maintenance analgesia, and a review of the current dressing or procedural technique used. Scores that persist above 4 can be considered to indicate uncontrolled pain6. Scores below 4 (or below 40% of the range) may indicate a level of discomfort that is acceptable, with no lingering pain. However, it is vital to keep this under review.

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WHICH PAIN SCALE?
The routine, systematic use of a pain scale provides a method of measuring the success of analgesic and wound care choices. No one tool is suitable for all patients and it is important that both the clinician and the patient understands the scoring system to be used and how to interpret it. The choice of scale will depend on individual patient needs and/or circumstances, but once chosen, the same scale should be used to ensure consistency in documentation (see page 10).

- **Visual scales** include the Faces scale which uses cartoon faces ranging from a smiling face for ‘no pain’ to a tearful face for ‘worst pain’. The visual analogue scale (VAS) is commonly drawn as a 10cm line indicating a continuum between two extremes, for example ‘no pain’ to ‘worst pain’. Patients are asked to point to a position on the line that best represents their level of pain. This score is then measured and recorded.

- **Numerical and verbal scales**: the numerical rating scale (NRS) presents the patient with a range of numbers (eg 0-10) to indicate the range from no pain to worst possible pain. The patient is asked to choose a number on the scale that best places his or her current pain on that scale. The verbal rating scale (VRS) is one the simplest scales to use and usually consists of no more than four or five words (for example ‘none’, ‘mild’, ‘moderate’ and ‘severe’).

**Pain diaries – continuous pain scoring**
These provide a personalised, detailed account of the pain experience not only during dressing-related procedures, but also when patients are performing daily routines. A pain diary can combine a brief narrative with a self-assessment tool for patients to rate their pain at specific times of the day. This can build up a picture of background pain problems and help to evaluate pain at dressing-related procedures.

Assume all patients can use a pain rating scale until proven otherwise. Routine pain scoring during dressing-related procedures can impact significantly on management.

PROFESSIONAL ISSUES
A vital element in spreading best practice is the concept of professional accountability. The patient has a right to a minimum standard of professionalism from clinicians and carers, and clinicians can be held accountable by their regulatory body. This means also that clinicians have responsibility for the quality of care of those working under their direction. Ignorance of modern knowledge and techniques is no defence.

If a patient has severe pain during a dressing-related procedure, it is negligent to repeat the procedure without adequate pain relief. Systematic and documented patient-centred pain assessments, which may result in changes in practice or appropriate referral where necessary, are evidence of a good quality of care.

Patients’ previous negative pain experience can lead to increased expectations of pain.
Every person and every wound should have an individualised management plan: uncontrolled pain should signal an immediate adjustment to that plan. Wounds differ in their origins and prospects for healing, which has potential implications for the likelihood and severity of pain experienced, and should guide the choice of treatment options and strategies used in dressing-related procedures. The aim is to treat all causes of pain and the clinician will need to consider the patient’s level of background and incident pain prior to any clinical intervention.

BACKGROUND AND INCIDENT PAIN
Treat underlying cause
The most important factor in reducing background pain is to treat, where possible, the underlying aetiology of the wound or associated pathologies. Correcting the underlying cause of the wound is likely to promote healing and may coincide with a reduction in background pain.

Address local factors causing wound pain
Clinicians need to consider how best to treat and manage factors that may alter the intensity or character of wound pain. The approaches available to manage local wound factors are many and varied. Clinicians must follow local wound management protocols and consider which treatment options are suitable, available, affordable and practical within their particular healthcare settings.

Consider analgesic options
Clinicians should always work quickly to control background and incident pain using a combination of analgesic drugs from different classes as appropriate. The World Health Organization has developed a three-step ladder for managing cancer pain (www.who.int/cancer/palliative/painladder/en). This is also suitable for managing background pain as regular, simple analgesics (eg oral non-opioids), are the first step. Then, if pain is uncontrolled weak opioids such as codeine or tramadol should be added or used alone. A third step, based on a full evaluation of the previous strategies used, is the addition of a stronger opioid (eg morphine).

Co-analgesic medications
Some classes of non-analgesic drugs, such as tricyclic antidepressants and anticonvulsants, can be given as an additional therapy as they enhance the management of neuropathic pain. These should only be prescribed after a full assessment and due consideration of other prescribed medications and co-morbidities.

APPLICATION TO PRACTICE
Background pain and incident pain must be well controlled to minimise pain intensity at wound dressing-related procedures effectively
The clinician must act early to relieve pain and prevent provoking pain
If an intervention such as dressing removal or wound cleansing is causing increasing pain requiring more aggressive analgesia, then the clinician must reconsider treatment choices.
Minimise risk of adverse events
The main classes of common analgesics are appropriate for both children and older people, but some adjustment to doses and timing may be necessary.

As all analgesics are associated with adverse effects, it is important to anticipate potential problems and avoid analgesics with a high risk. With older people, in particular, who may be taking other medication such as anticoagulants, caution must be exercised to prevent interactions. Impaired renal or hepatic function may delay the metabolism of analgesics, and consideration must be given to managing the side effects of opioids, which can cause more severe constipation in older people and increased nausea in the young.

PROCEDURAL PAIN
Most analgesics can be administered before a painful event (‘preventatives’), but clinicians should ensure that other drug options are available to deal with pain that becomes uncontrollable (‘fire-extinguishers’). If analgesics have been required in this way, this should lead to better planning next time the treatment intervention is performed. Analgesia may be continued post-procedure, but if wound pain persists and is poorly controlled, background medication should be reviewed.

Local policies and protocols should be developed to ensure a safe and effective level of prescribing. These must be reviewed and improved in the light of ongoing assessment.

CLASSES OF ANALGESICS

Opoids
Weak to strong opioids are effective for moderate to severe pain. There are long-acting and slow-release formulations available for background pain, but oral, buccal or sublingual opioids are also of use as fast-acting top-up analgesics for managing the pain of more invasive or sensitive procedures. Consideration must be given to the use of strong opioids as appropriate where pain is difficult to control and is interfering with the smooth completion or toleration of the procedure for the patient.

NSAIDs
Non-steroidal anti-inflammatory drugs dampen down peripheral sensitivity and are particularly useful in controlling the throbbing or aching pain felt after a procedure has been completed. As long as there are no contraindications, these should be given 1-2 hours in advance of the procedure to reach peak effect when most needed. However, caution must be exercised in the over-65 age group, and patients with known contraindications (eg history of duodenal ulcer, clotting or renal problems).

Paracetamol (acetaminophen)
Paracetamol (acetaminophen) can be given alone or in combination with another analgesic (eg codeine or morphine) 1-2 hours prior to a dressing-related procedure.

Topical local anaesthetics
In small doses, topical local anaesthetics (eg lidocaine) can provide a degree of numbness for a short period of time. This may be useful during a specific procedure or operative event, but should not be used as the only method of pain relief.

50% nitrous oxide and 50% oxygen gas
This mixture of gases can be used alongside other pain relief techniques, but regular use may be associated with bone marrow depression.

NOTE: For general pain management dosing see www.epeconline.net/EPEC/Media/ph/module4.pdf
PROCEDURAL INTERVENTIONS

There are a vast array of dressing-related procedures. Specific interventions will require specific management, but the following general principles should be considered:

- Be aware of current status of pain
- Know and avoid, where possible, pain triggers
- Know and use, where possible, pain reducers
- Avoid unnecessary manipulation of the wound
- Explore simple patient-controlled techniques, such as counting up and down, focusing on the breath entering and leaving the lungs or listening to music
- Reconsider management choices if pain becomes intolerable and document as an adverse event
- Observe the wound and the surrounding skin for evidence of infection, necrosis, maceration etc
- Consider the temperature of the product or solution before applying to the wound
- Avoid excessive pressure from a dressing, bandage or tape
- Follow the manufacturer’s instructions when using a dressing or technology
- Assess comfort of intervention and/or dressing/bandages applied after the procedure
- Ongoing evaluation and modification of the management plan and treatment intervention is essential as wounds change over time
- More advanced non-pharmacological techniques that require specialist training or skilled personnel, such as the use of hypnosis or therapeutic touch, can be considered

Preparing the environment: Prepare, Plan, Prevent

In order to Prevent pain, Preparation and Planning are key to effective management:

- Choose an appropriate non-stressful environment – close windows, turn off mobile phones etc
- Explain to the patient in simple terms what will be done and the method to be used
- Assess the need for skilled or unskilled assistance, such as help with simple hand-holding
- Be thoughtful in positioning the patient to minimise discomfort and avoid unnecessary contact or exposure
- Avoid prolonged exposure of the wound, eg waiting for specialist advice
- Avoid any unnecessary stimulus to the wound – handle wounds gently, being aware that any slight touch can cause pain
- Involve the patient throughout – frequent verbal checks and use of pain tools offer real-time feedback
- Consider preventative analgesia.

In some cases, dressing-related procedures can become more painful over time and a new assessment must be undertaken each time the procedure is carried out.

The simplest outcome of listening to and involving the patient is a prompt for ‘time-out’ breaks to allow the patient’s comfort levels to recover. At this time analgesia can be supplemented and the clinician, who needs to understand what the patient recognises as triggering the pain and what brings relief, can consider how best to proceed. Slow rhythmic breathing is recommended to distract the patient and reduce anxiety.
Dressing removal

It is important that the clinician recognises the potential to cause pain during dressing removal. By talking to the patient it is possible to negotiate the most appropriate removal technique – for example the patient may want to remove the dressing him/her self. Pain intensity scoring at dressing removal should be offered to evaluate practice. Dressing removal has the potential to cause damage especially to delicate healing tissue in the wound and surrounding skin. It is therefore important to consider using dressings that promote moist wound healing (eg hydrogels, hydrofibres) and are known to be atraumatic on removal (ie soft silicones).

Reconsider dressing choice if soaking is required for removal or removal is causing bleeding/trauama to the wound or surrounding tissue

Dressing selection

Correctly matching the parameters of a dressing to the state of the wound and surrounding tissues helps to manage pain. Factors affecting dressing choice must include appropriateness to the type and condition of the wound. The following dressing parameters should be considered:

- Maintenance of moist wound healing
- Atraumatic to the wound and surrounding skin
- Absorbency capacity (fluid handling/retention capacity)
- Allergy potential.

Where appropriate, clinicians should select dressings that stay in situ for a longer period to avoid frequent removal. In addition, there is a need to evaluate the dressing used when the wound conditions change as some of the pain the patient is experiencing may be due to dressing choice: what may have been a good choice on day 1 becomes a poor choice on day 5 when the conditions have changed.

CHALLENGING MYTHS

Clinicians need to challenge the assumptions that underpin their beliefs and attitudes as there are some common misconceptions about minimising trauma and pain. These include:

**Myth 1** ‘Wet to dry dressings are still the gold standard for wound care’
Adherent gauze can disrupt delicate healing tissue and provoke severe pain

**Myth 2** ‘Transparent films are the best dressings for treating and reducing the pain of skin tears and other minor acute wounds’
The misuse of transparent films is a common cause of skin tears

**Myth 3** ‘Using paper tape is the least painful way to secure a dressing’
Heightened nerve sensation in a wide area around a wound can make any adhesive tape painful to remove

**Myth 4** ‘Pulling a dressing off faster rather than slower reduces pain at dressing changes’
This method has the potential to inflict tissue damage and traumatic pain

**Myth 5** ‘Using a skin sealant on periwound skin reduces the risk of pain and trauma’
Skin sealants only create a thin topical layer and do not protect deeper dermal layers

**Myth 6** ‘People with diabetic foot wounds do not experience pain’
There may be some loss of peripheral nerve sensation but also heightened sensitivity

**Myth 7** ‘Pain comes from the wound. The surrounding skin tissue nerves play little role’
Spinal-cord responses to incoming pain signals can give rise to abnormal sensitivity in the surrounding area (alldynia)

**Myth 8** ‘The only way to treat wound pain is by an oral analgesic 30-60 minutes before dressing changes’
Oral analgesics can give some relief but should not be seen as a single solution. A full pain assessment must be used to evaluate and fine-tune any prescribed therapy
QUESTIONS TO ASSESS CHARACTER OF PAIN

Does the patient have background and/or incident pain?

**Quality:**
Describe the pain or soreness in your wound at rest. Is the pain aching or throbbing (likely to be nociceptive pain) or sharp, burning, or tingling (likely to be neuropathic pain)?

**Location:**
Where is the pain? Is it limited to the immediate area of the wound or do you feel it in the surrounding area? Consider using body map

**Triggers:**
What makes the pain worse? Do touch, pressure, movement, positioning, interventions, day versus night trigger pain?

**Reducers:**
What makes the pain better? Do analgesia, bathing, leg elevation etc help to relieve pain?

Does the patient experience pain during or after dressing-related procedures?

**Quality:**
Describe the pain the last time your dressing was removed

**Location:**
Where was the pain? Was it limited to the immediate area of the wound or did you feel it in the surrounding area?

**Triggers:**
What part of the procedure was most painful, eg dressing removal, cleansing, dressing application, having the wound exposed?

**Reducers:**
What helped to reduce the pain, eg time out, slow removal of dressing, removing the dressing yourself etc?

**Timing:**
How long did it take for pain to resolve after the procedure?

MEASURE PAIN INTENSITY

Pain scales can record trends in pain intensity before, during and after a procedure and, when used together with appropriate assessment strategies, provide a broad understanding of the patient’s pain experience.

The simple act of routine pain scoring during dressing-related procedures can impact significantly on management

**PAIN SCALES**

**Wong-Baker FACES Scale**

Ask the patient to choose a face that best describes how he/she is feeling


**Numerical rating scale**

Ask the patient on a scale of 0-10, where 0=no pain and 10=worst possible pain, to choose a number that best places his/her current level of pain

**Verbal rating scale**

Ask the patient which word best describes his/her current level of pain